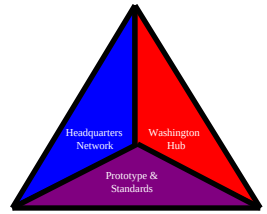
Department of the Navy
Information Technology Initiatives

Presented to: Copernicus Requirements Working Group

CAPT James McKenzie
Director, DONINPO
30 October 1996

Outline



- Priority and Tasking
- Pentagon Headquarters Network Initiative
- National Capital Region Network
- Other Region Network Initiatives
- DON Technical Architecture and Standards

IT Priority, Direction and Tasking

3 August 1995

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Secretariate Priorities for the Future

Signed,
John Dalton
Secretary of the Navy

- **IT is a top 10 DON priority**

26 October 1995

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT AND ACQUISION)

Subj: DON INFORMATION NETWORK PROJECT OFFICE (INPO)

Signed,
John Dalton
Secretary of the Navy

- **Stand up DONINPO program, I have a special interest in this project, move forward quickly**

28 December 1995

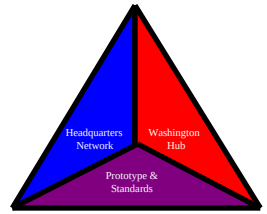
MEMORANDUM FOR DISTRIBUTION

Subj: DEPARTMENT OF THE NAVY INFORMATION NETWORK PROJECT OFFICE (INPO)

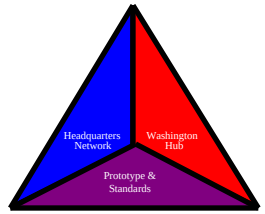
Signed,
John W. Douglass
Assistant Secretary
of the Navy for Research,
Development, and
Acquisition

- **Connect DON H make interopera**
- **Upgrade deskto today's office sc**
- **Interconnect DO networks in the Area**
- **Become prototy across DON**

Stand Up of Effort

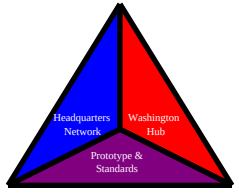


- Implementation approach initiated by N6 and ASN(RDA)
- Tiger Team stood up in Feb 95 to develop architecture plan
  - Headed by N65
  - Representation from OPNAV, SECNAV, SYSCOMS, BUMED, BUPERS and MARCORPS
- Resulting DON WAN architecture was based upon N65 network consolidation efforts



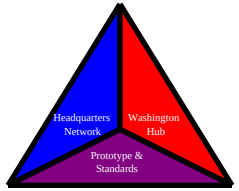
Pentagon (DNHN) Network

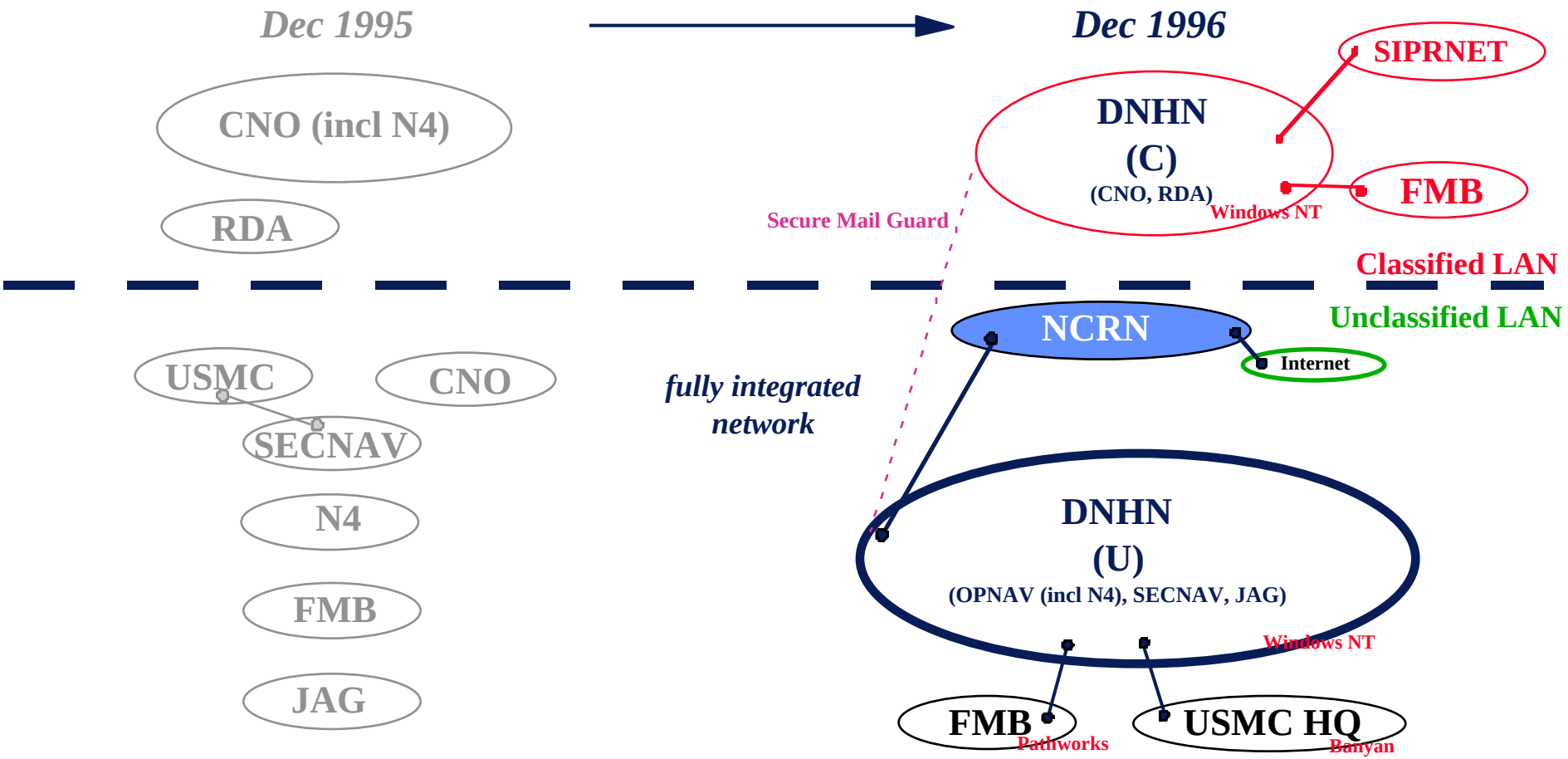
Pentagon (DoN Headquarters) Network (DNHN)



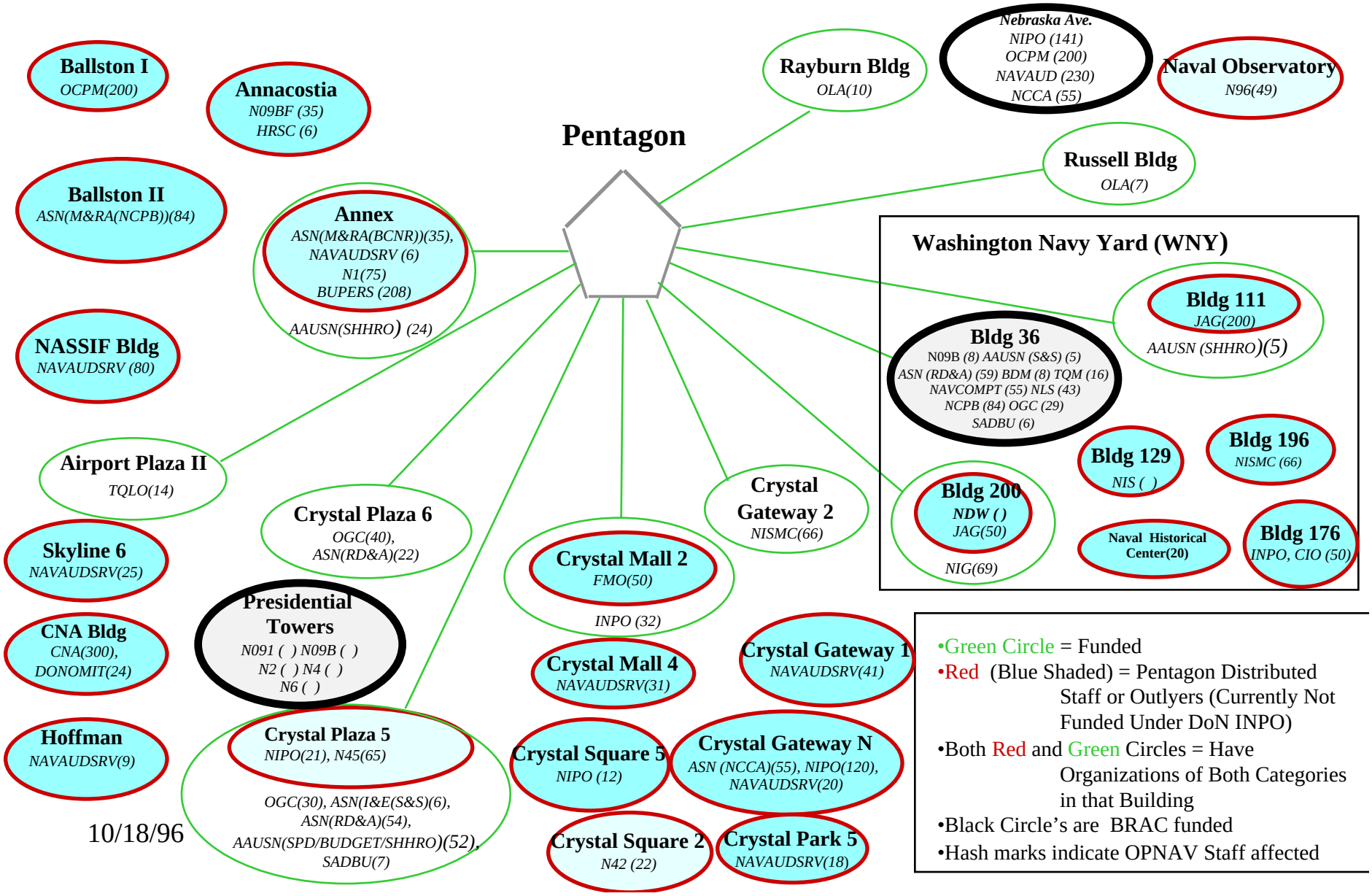
- **Integrate AISs in the Secretariat, OPNAV, & MC HQ**
  - original target: 4,000 people
- **Prepare DoN HQ for DMS**
  - new PCs, printers, desktop software, DMS software
- **Install Unclassified LAN throughout the Pentagon**
  - consolidate all existing LANs
- **Consolidate Classified LANs**
- **Consolidate "Help Desk" services**
- **Develop life cycle support plan for systems**
- **Target IOC: 11/96**

Pentagon Network Implementation





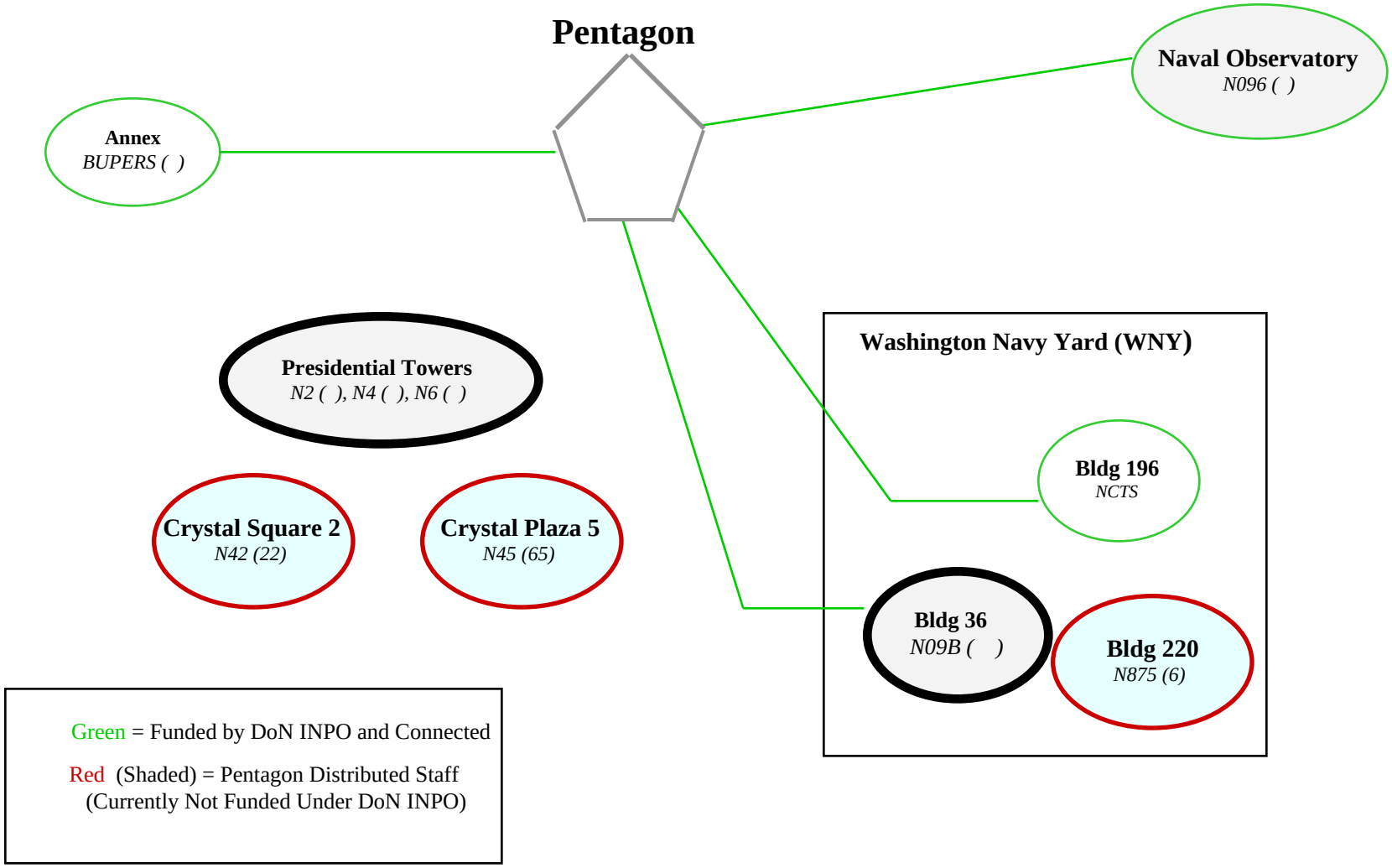
DNHN (Unclas)
as of October 1996



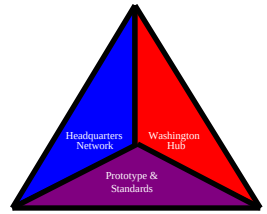
10/18/96

DNHN (Classified)

as of September 1996

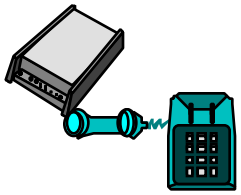


Pentagon Unclas Network (DNHN) Value Added

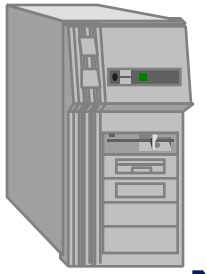


Attribute	Before	After
Connectivity	5 separate LANs; different operating systems; 10 MBPS capacity; multiple WAN entries	Single LAN; common operating system; 200 MBPS backbone capacity; single entry to DON Nets
Security	Firewall on Unclas; no Firewall on Class; Mail Guard between two	Upgraded performance Firewall on Unclas; Firewall and Intrusion Detection on Class; Mail Guard
EMail	5 separate separate EMail systems, limited attachment and file transfer	DMS capable messaging; fully interoperable, full attachments,file transfer, directory
Office Software	No standardization on Office software	MS Office-Windows 95 consistent with DOD Joint Technical Architecture
Dial In	Degraded remote dial in	Remote dial in with virtual networking & DON Intranet access
Desktop Machines	Mix of 386/486 machines	1700 DMS compliant Desktop PCs in Pentagon alone

Pentagon Unclas Network Capability



– Remote Dial in with virtual networking



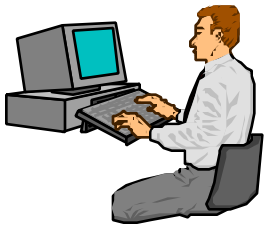
– Internet Access

World Wide Web

– Faster throughput to WAN

National Capital Region Node

– Single unclas network
  –High speed
  –Voice, video, data



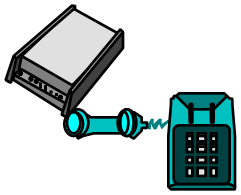
–Users
  » OPNAV 2000 users on 300 POPs
  » SECNAV 1000 users

– Consolidated Help Desk

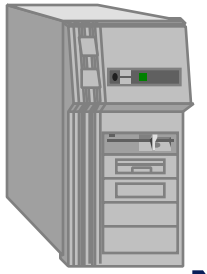
Standard Desktop has
– Office business software
– Electronic mail
  »Attachments (Power Point, etc)
  »Directory Look Up
  »File Transfer
  »DMS capable
– Calendaring

Copernicus

Pentagon Classified Network Capability

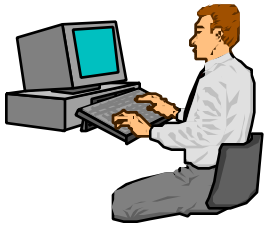


–Remote Dial in via STU-III for selected users



SIPRNET

– Single classified network
  –High speed
  –Data

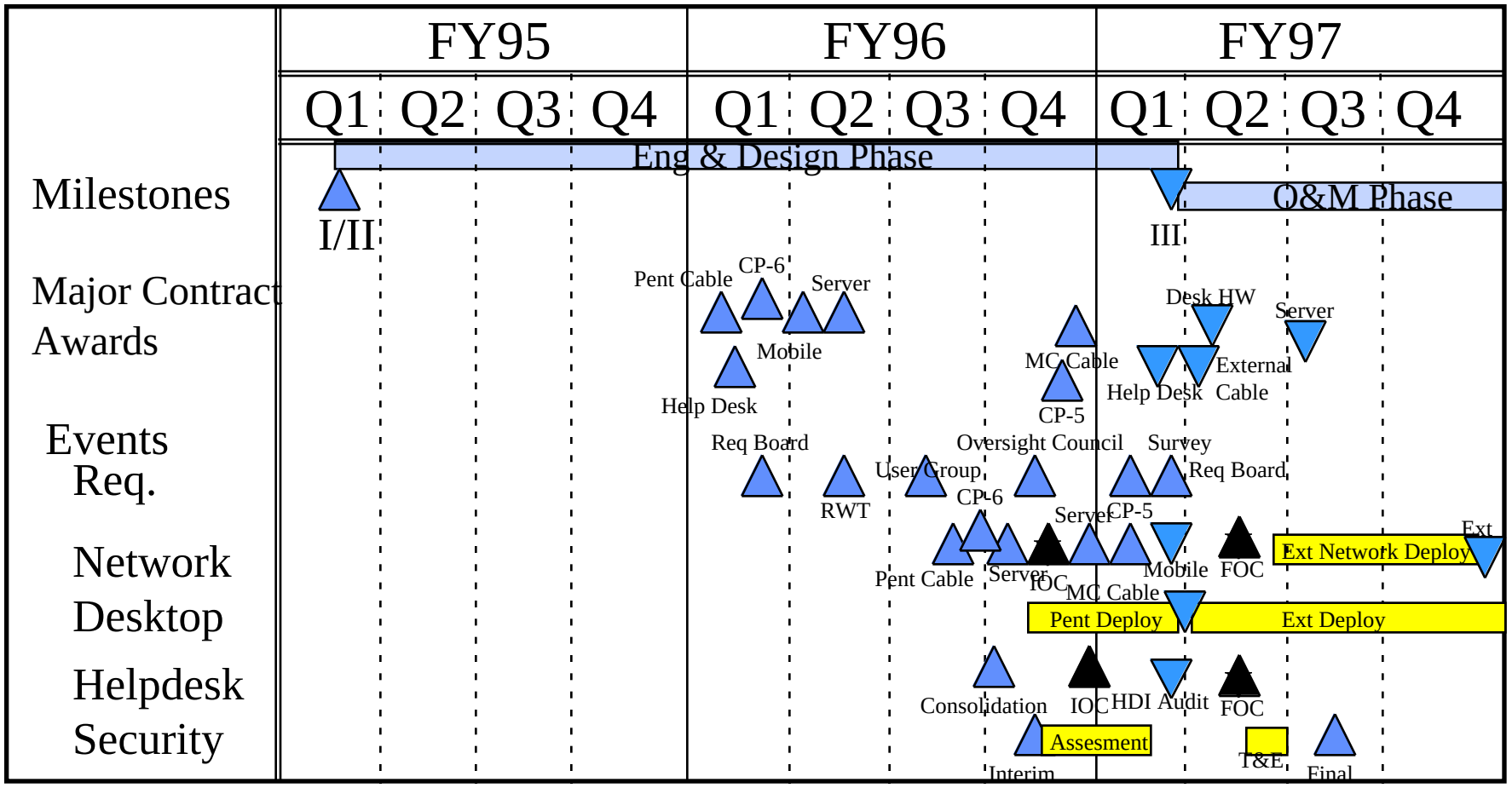


–2000 users on line

– Consolidated Help Desk

Standard Desktop has
- Office business software
- Electronic mail (cc:Mail)
  - »Directory Look Up
- Calendaring (Lotus)

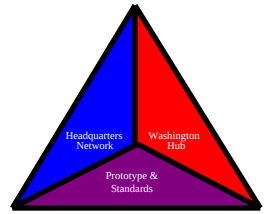
Pentagon (DoN Headquarters) Network Schedule



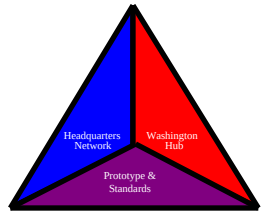
External Staff to Connect

APII, Rayburn,Russell, CM-2, Ballston II, Nassiff, Skyline 6, CAN, PT, CG-2, CG-1, CM-3, CM-4, Nebraska, CM-4, Naval Obs, Ballston I, Hoffman, CS-2, CS-5, CGN, Anacostia

Pentagon (DoN Headquarters) Network Issues

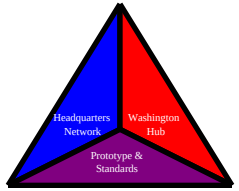


- **Messaging Decision (Exchange vs Notes)**
  - Preparing interoperability demo for Senior Review Group
  - Affects hardware and software configurations
  - Limited Exchange deployment started
    - Major DMS buy on hold
  - Four month slip in Full Operational Capability
- **Scope Creep**
  - Movement of offices to/from Pentagon and within Washington
  - Support and upgrade of DNHN users external to Pentagon is currently unfunded (POM 98 issue)
- **Help Desk Operations Complaints**

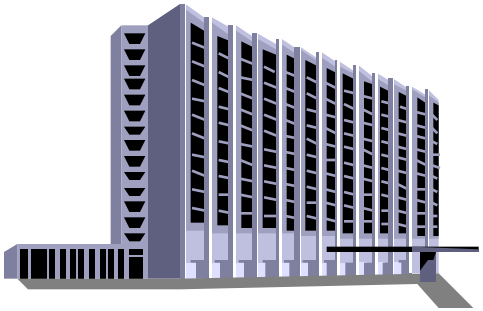


National Capital Regional Node

National Capital Region Node

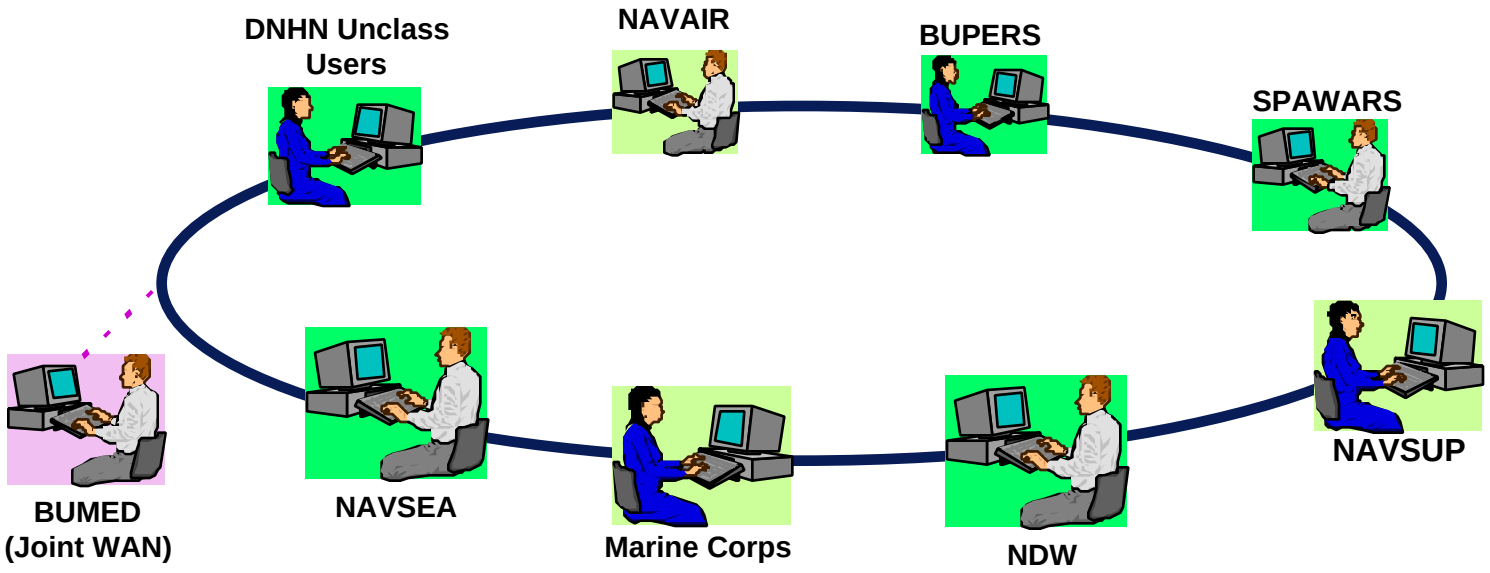


- **Connect Naval sites within 65 miles of Washington DC**
  - **Common hubs connecting SYSCOMS**
  - **300,000 people**
  - **Target IOC: Dec 96**
- **Teamed with BLII**



National Capital Regional Node Description

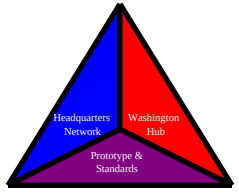
DoN Prototype: RN#1 - On cost, on schedule

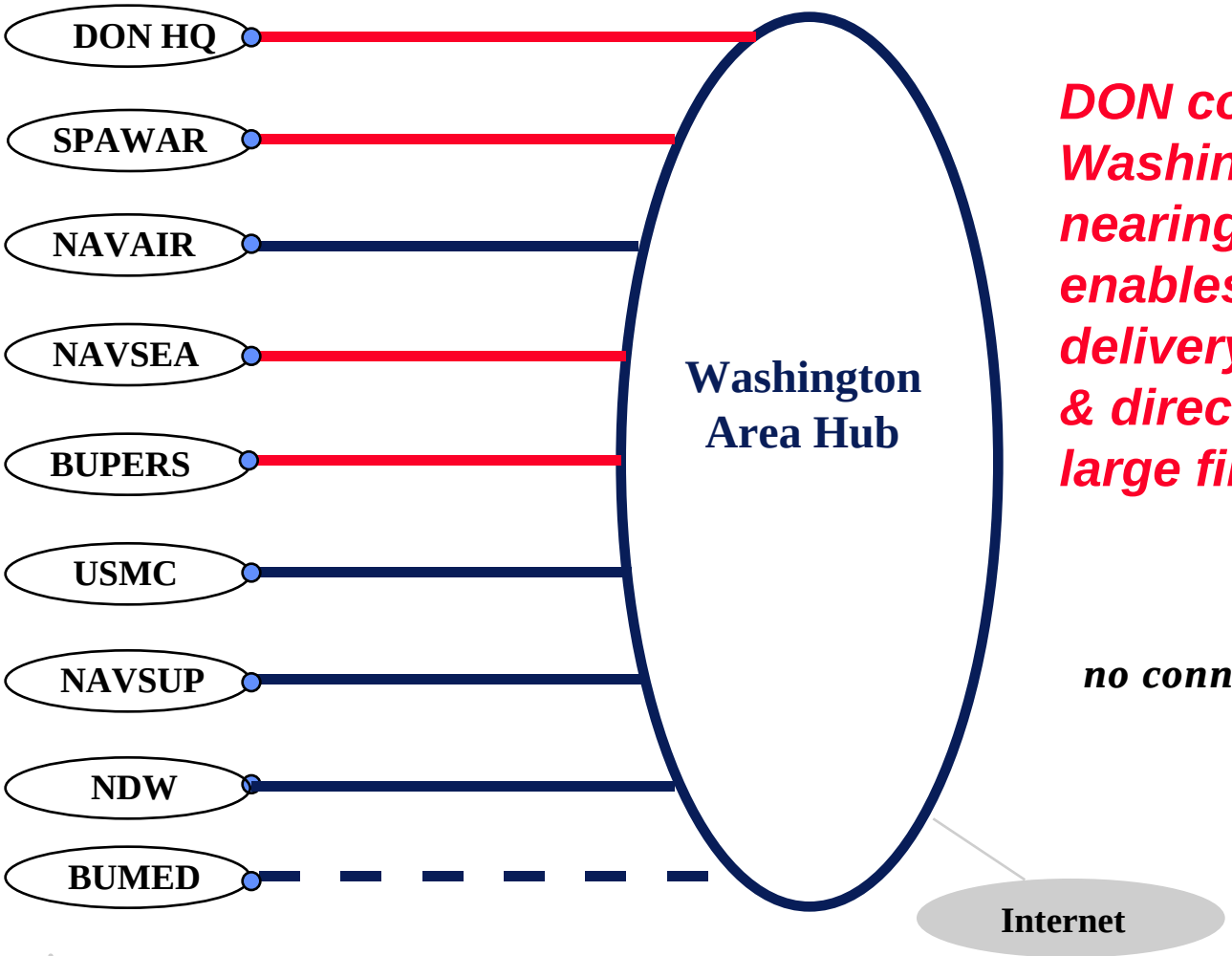


SCHEDULE

- Jun 1996
- Dec 1996
- Dec 1996

Washington Unclas Regional Node Overview





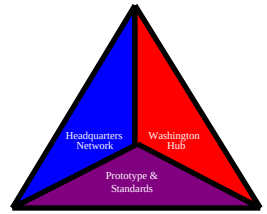
DON connectivity to Washington hub is nearing completion; enables reliable EMail delivery w/ attachments & directory service, also large file transfer

no connectivity — *Dec 1995*

Today

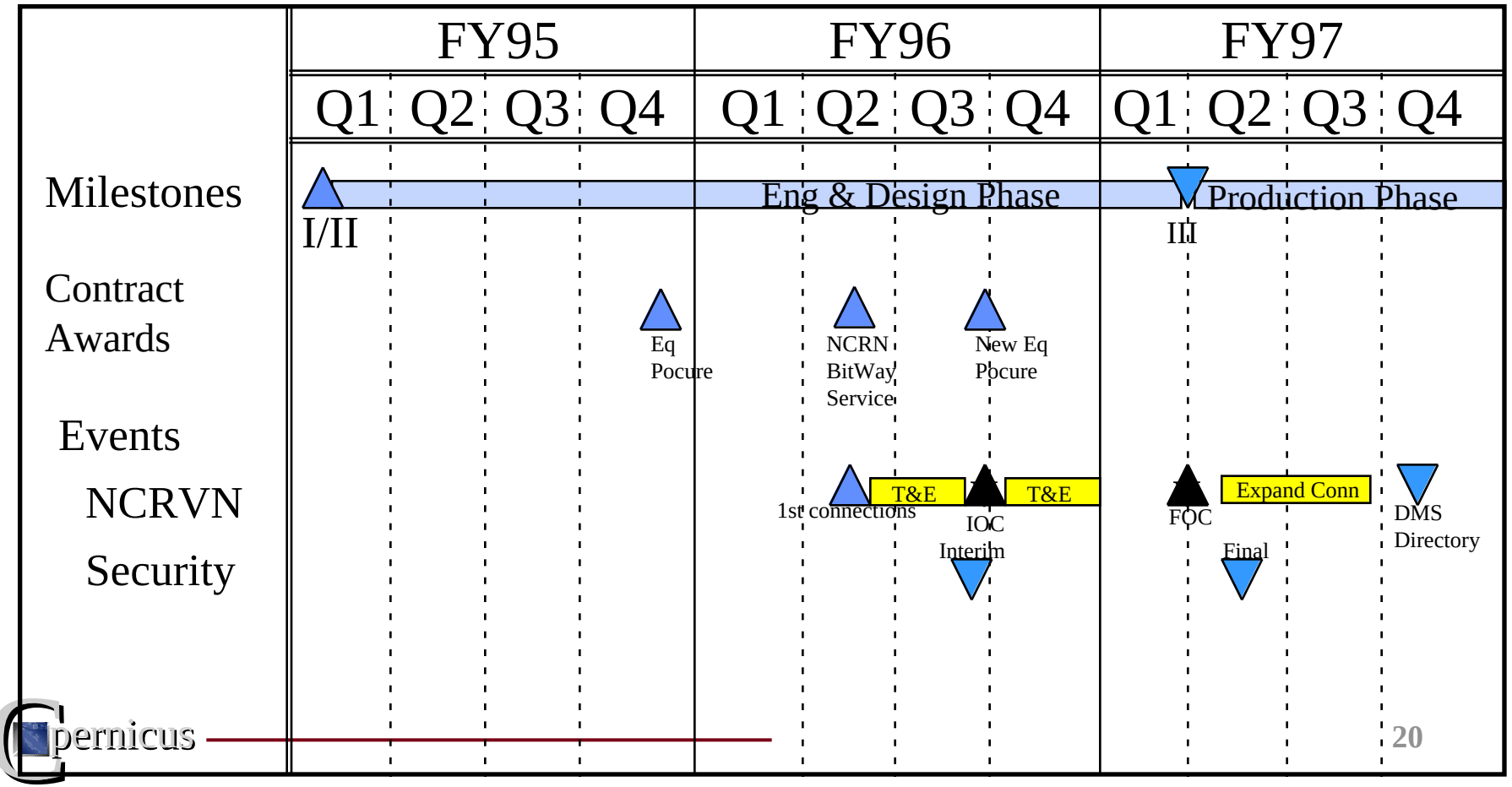
Dec 1996

National Capital Region Node Accomplishments

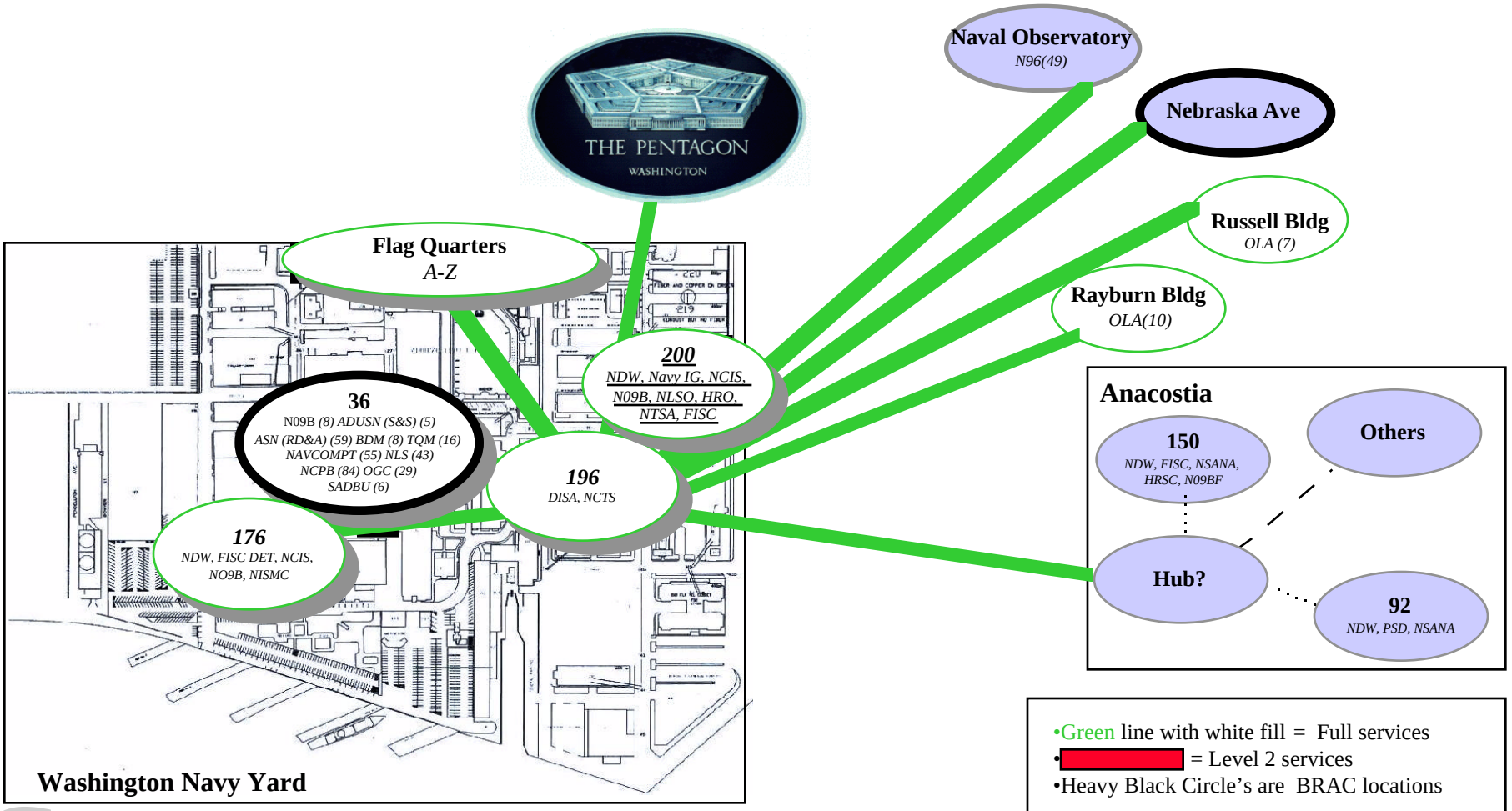


Attribute	Before	After
Connectivity	Stovepipe Networks with reliance on Internet; 384 KBPS	Single Naval fabric for National Capital Region; increased performance (10MBPS)
Security	Reliance on Internet	Single Naval fabric; positioned to have regional firewall
Messaging & Directory Services	7 separate EMail systems, limited attachment and file transfer, no centralized directory	Interoperable messaging with attachments; single X.500 directory service with web interface

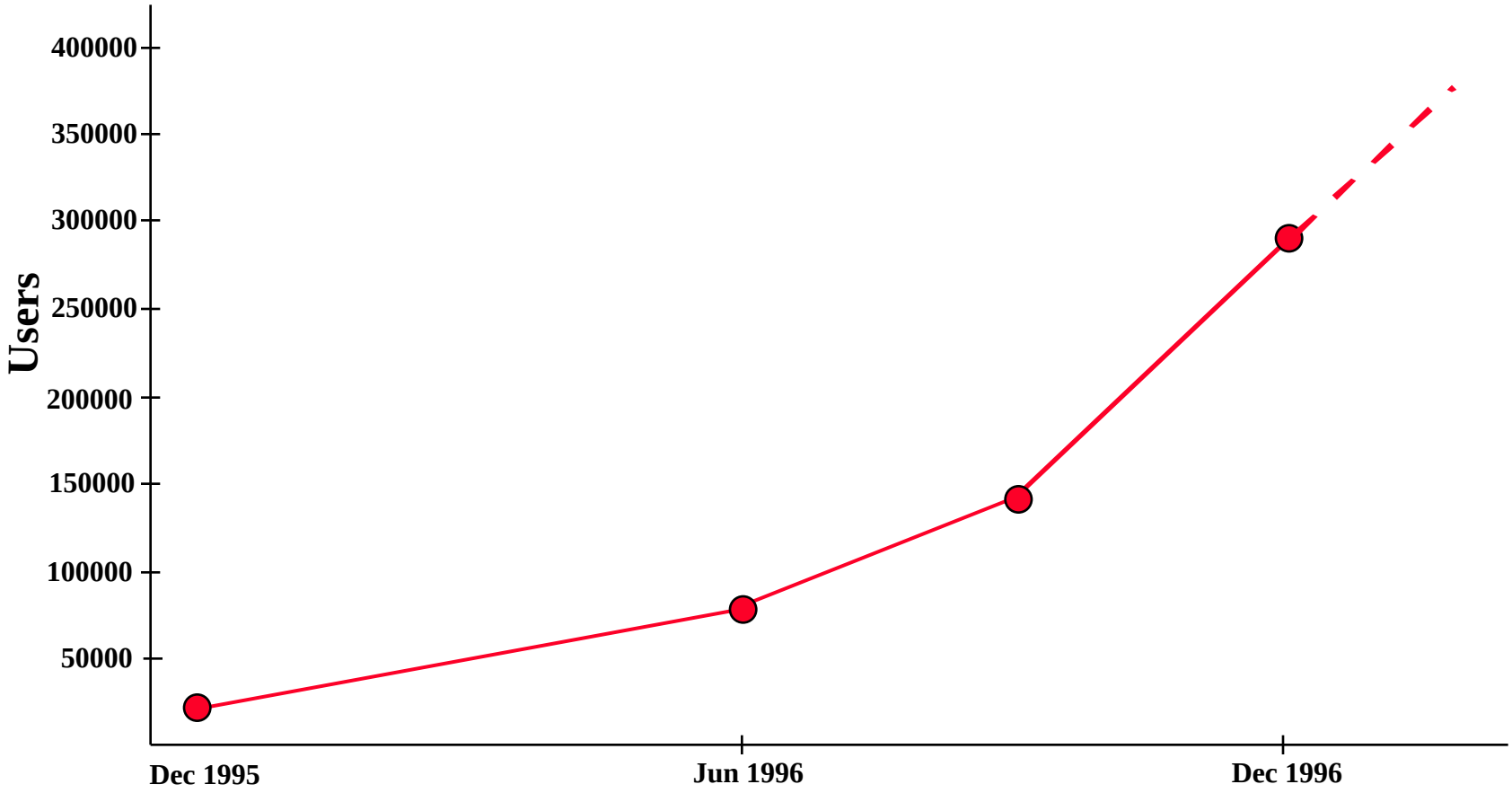
National Capital Region Node Schedule



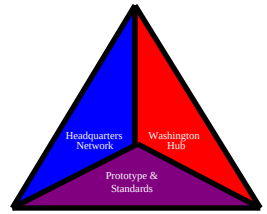
Naval District Washington
Phase 1 (Unclass)



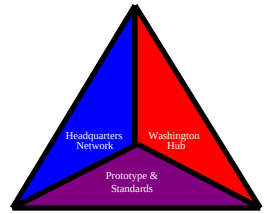
National Capital Region Node Population



National Capital Region Node Issues

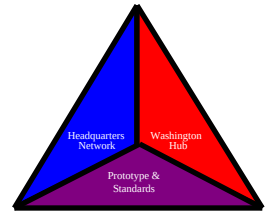


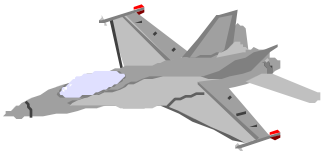
- Dependent on IPTs from across DoN. Lack of top level support at participating commands makes difficult for interested engineers to participate -- need support
- As with DNHN, a large number of “outlyer” commands want to participate (POM 98 issue)
- NCRN dependent upon support/input of member IT organizations for executing operations and administration -- potential issue
- Large number of heterogeneous mail systems makes full interoperability a potential configuration management challenge

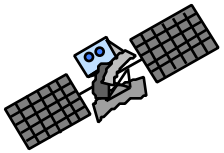


DoN Wide Area Networking (DoN WAN)

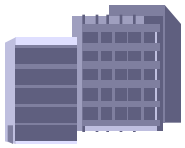
Department of the Navy Wide Area Network (DONWAN)



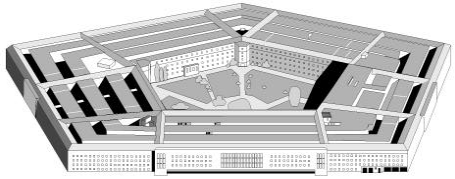




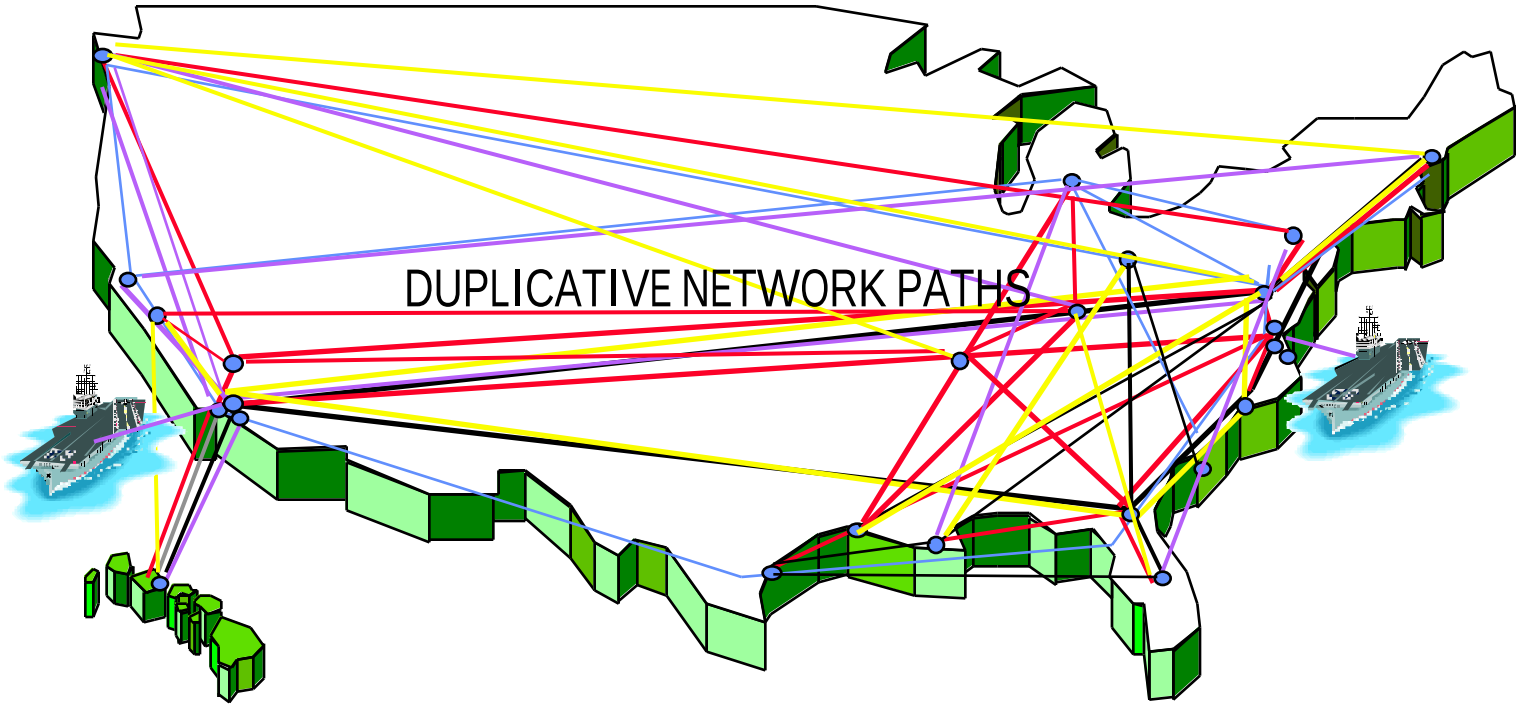
- **Build Naval Intranet**
- **Combine the best of the "Business" and Tactical IT architectures**
  - **Copernicus ... forward**
  - **650,000 people**
  - **Shipboard, shorebased, space implications**
- **Teamed with BLII**



Copernicus

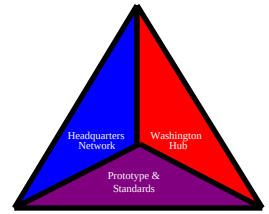


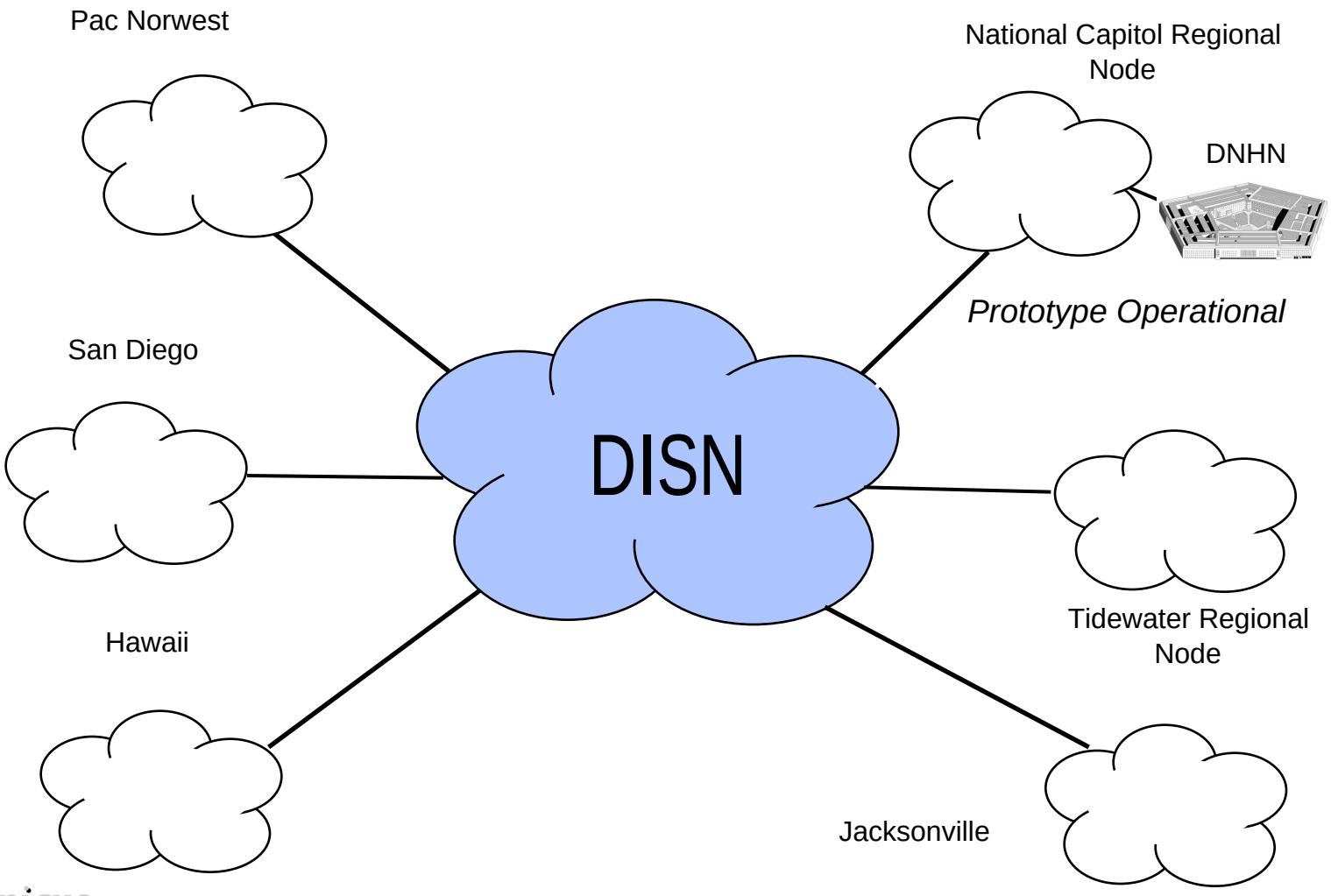
Wide Area Network Inefficiencies



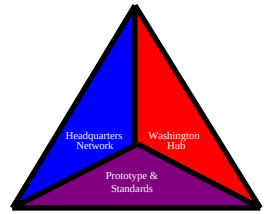
Long Haul Networks Include:
56K, T1, T3

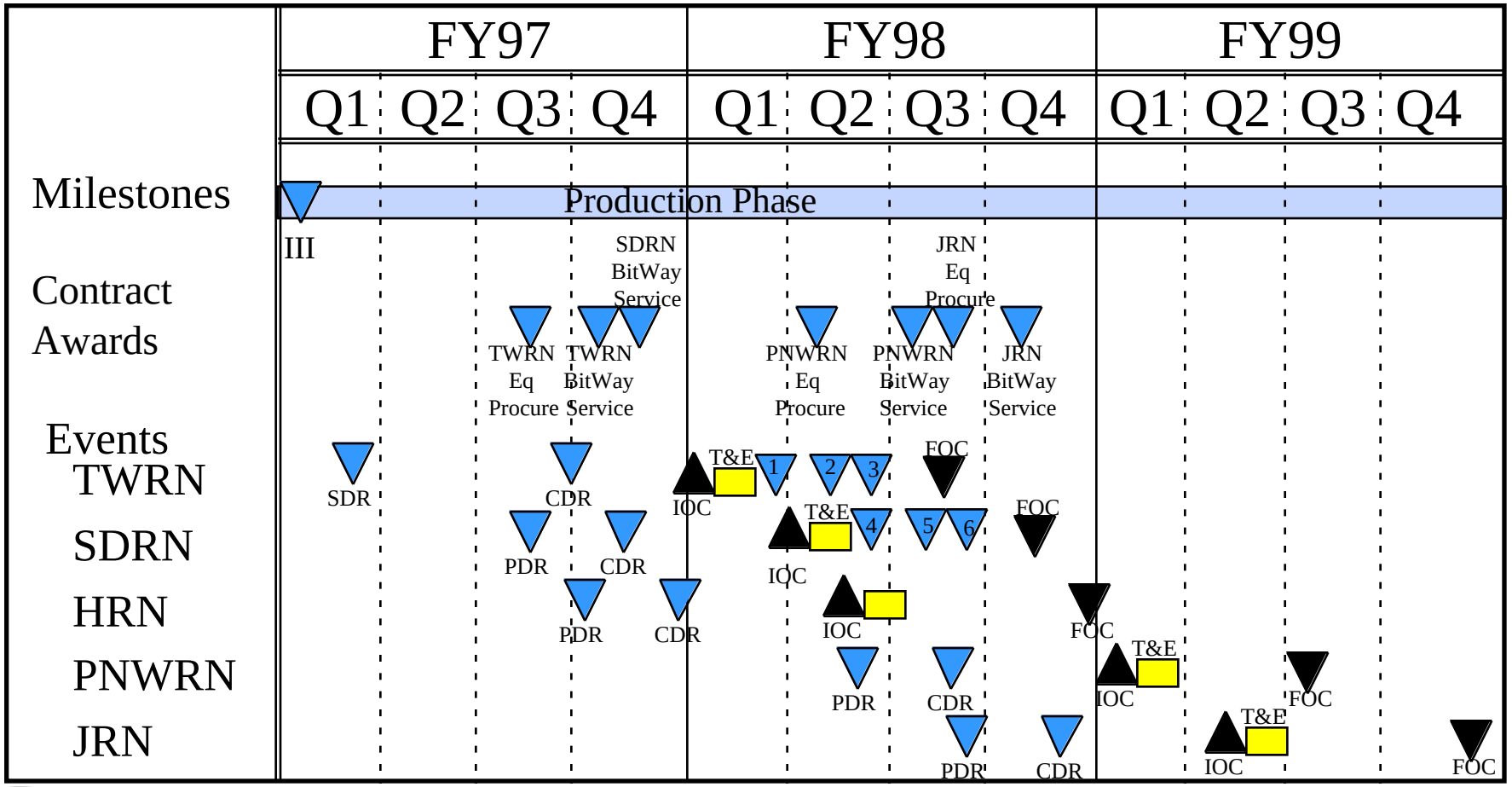
Wide Area Network Initiatives





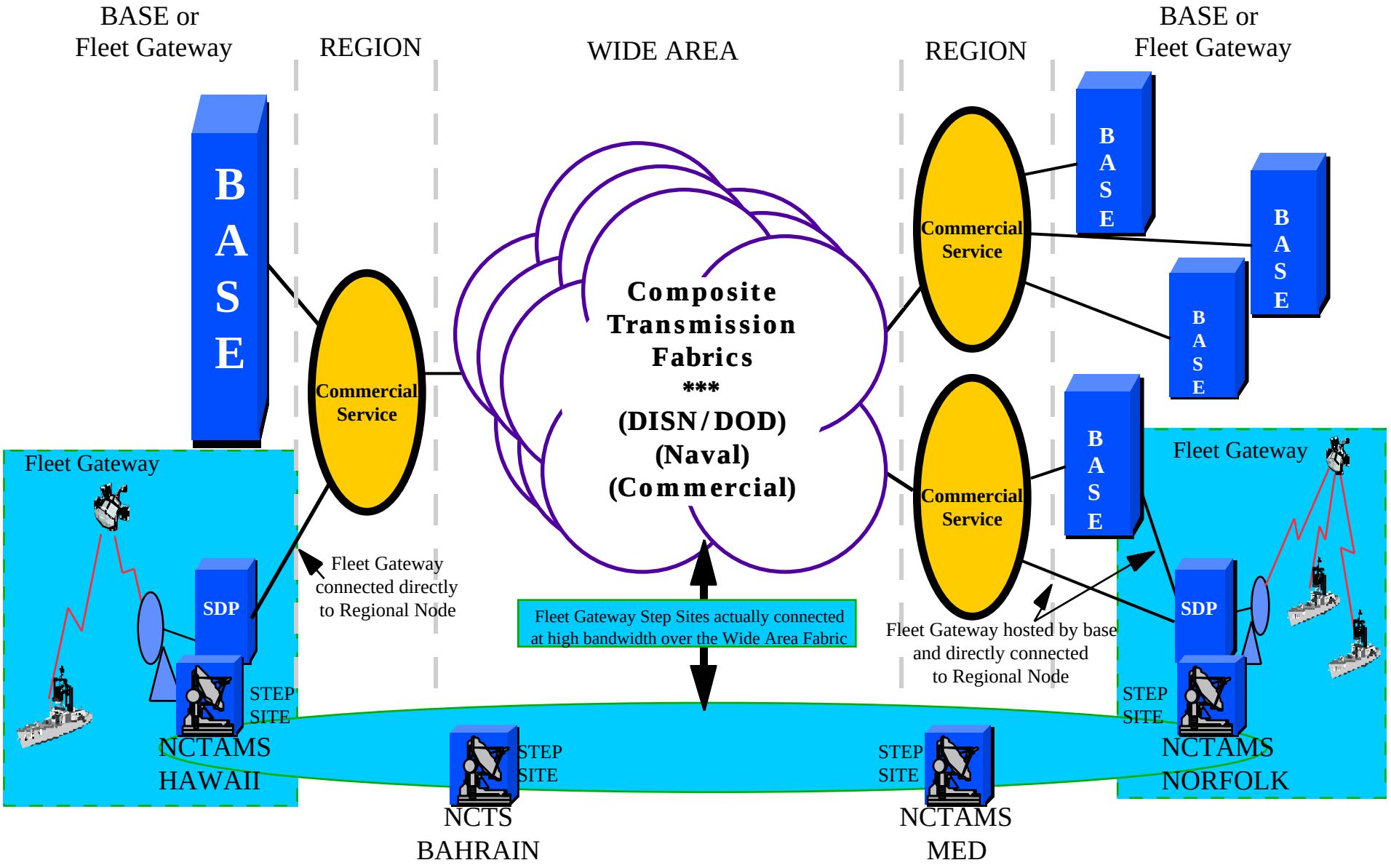
Department of the Navy Wide Area Network (DONWAN)

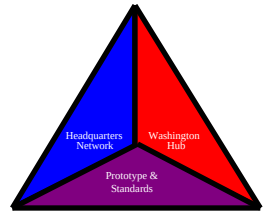




1. Little Creek/NSGA
2. Oceana/Norfolk
3. Dam Neck
4. North Island
5. NavSta SD
6. Camp Pendleton
7. NCCDSC.

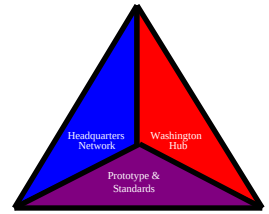
A Systems View





Architecture and Standards Support

Architecture & Standards



USER

Tactical Applications	Non-Tactical Applications

Corporate Applications

Application Enablers (Document Management, Workflow, EMAIL)

Application Support (Object Management, Messaging, APIs, etc.)

Data Architecture

Network & Desktop (Wires, Protocols, etc.)

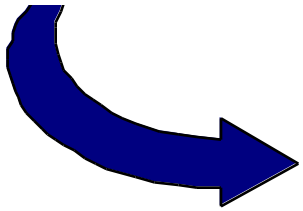
DON

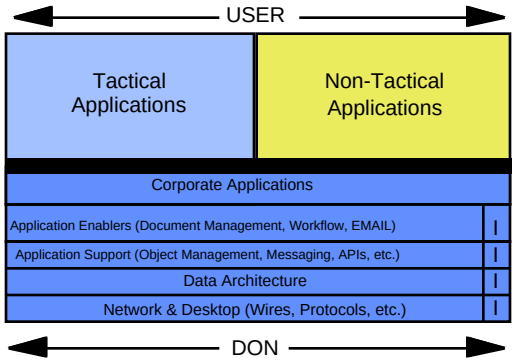
Architecture & Standards Support IPTs

Five customer-led IPTs each staffed by geographically dispersed, volunteer talent from across the DoN

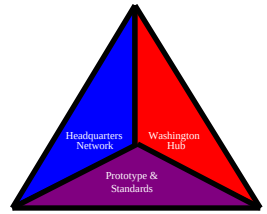
- Network Layer Team (COL D. Black (N6))
- Data Architecture Team (CAPT D. Straub (CINCLANTFLT))
- Applications Support Team (CAPT D. Gamble (SPAWAR))
- Applications Enablers Team (TDB, CINCPACFLT)
- Corporate Applications Team (Ms. G. Commons (DASN(FM)))

IPTs chartered by and report to DASN(C4I)



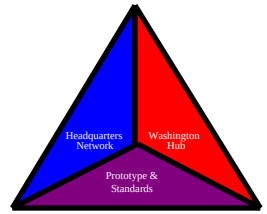


Architecture & Standards Support Accomplishments



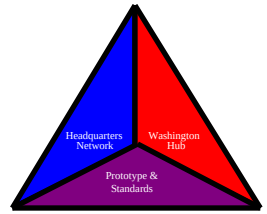
- Co-oping "Best Ideas" from across DoN
  - Direct Fleet involvement & ownership
  - Direct SECNAV, OPNAV, & SYSCOM involvement
  - Marines just getting involved
- IPTs will develop "Navy Technical Architecture"
  - Derived from DOD Joint Technical Architecture
- Following DISA's lead
  - IPTs ensuring that Navy only endorses "interoperable" standards
  - remaining flexible to commercial market place

Architecture and Standards Support Issues



- **Standards are essential to ensure interoperability**
  - **across DoN**
  - **in-theater for Joint operations**
- **Initially, trouble getting DoN-wide support**
  - **Steadily growing**
  - **Still need "buy in" from senior management**

Conclusions



- **Significant strides**
  - **DNHN will have approximately 5000 users**
    - includes 1800 new unclas machines & connections
  - **NCRN will standup with 300,000 users on Naval Intranet**
  - **DONWAN will spread implementation to all Fleet sites**
  - **Standards Teams finally taking on both Fleet & DC focus**
- **Issues**
  - **Focus, coordination and synergy in building Naval Intranet**
  - **Relying on "Centralized policy, decentralized implementation"**
  - **Participation in DON teams to build architecture and standards**
  - **Architecture and standards resulting in a true Naval Technical Architecture**